



OBJECTIVES FOR WATER QUALITY
in the
PROVINCE OF ONTARIO

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Adopted by
ONTARIO WATER RESOURCES COMMISSION

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OBJECTIVES FOR WATER QUALITY CONTROL IN ONTARIO

Adopted by the Ontario Water Resources Commission

These objectives are for all waters in the Province of Ontario, and it is anticipated that in certain specific instances, influenced by local conditions, more stringent requirements may be found necessary.

GENERAL OBJECTIVES:

All wastes, including sanitary sewage, storm water, and industrial effluents, shall be in such condition when discharged into any receiving waters that they will not create conditions which will adversely affect the use of these waters for the following purposes; source of domestic water supply, navigation, fish and wild life, bathing, recreation, agriculture and other riparian activities.

In general, adverse conditions are caused by:

- (a) Excessive bacterial, physical or chemical contamination.
- (b) Unnatural deposits in the stream, interfering with navigation, fish and wild life, bathing, recreation or destruction of aesthetic values.
- (c) Toxic substances and materials imparting objectionable tastes and odours to waters used for domestic or industrial purposes.
- (d) Floating materials, including oils, grease, garbage, sewage solids, or other refuse.
- (e) Discharges causing abnormal temperature, colour or other changes.

Specific Objectives:

In more specific terms, adequate controls of pollution will necessitate the following objectives for:

(a) Sanitary Sewage, Storm Water, and Wastes from Water Craft:

Sufficient treatment for adequate removal or reduction of solids, bacteria and chemical constituents which may interfere unreasonably with the use of these waters for the purposes afore-mentioned.

Adequate protection for these waters, except in certain specific instances influenced by local conditions, should be provided if the coliform M.P.N. median value does not exceed 2,400 per 100 MI. at any point in the waters following initial dilution.

(b) Industrial Wastes:

(1) Chemical Wastes - Phenolic Type

Industrial waste effluents from phenolic hydrocarbon and other chemical plants will cause objectionable tastes or odours in drinking or industrial water supplies and may taint the flesh of fish.

Adequate protection should be provided for these waters if the concentration of phenol or phenolic equivalents does not exceed an average of 2 P.P.B. and a maximum of 5 P.P.B. at any point in these waters following initial dilution. This quality in the receiving waters will probably be attained if plant effluents are limited to 20 P.P.B. of phenol or phenolic equivalents.

Some of the industries producing phenolic wastes are: coke, synthetic resin, oil refining, petroleum cracking, tar, road oil, creosoting, wood distillation, and dye

manufacturing plants.

(2) Chemical Wastes, Other than Phenolic:

Adequate protection should be provided if:

(a) The PH of these waters following initial dilution is not less than 6.7 nor more than 8.5. This quality in the receiving waters will probably be attained if plant effluents are adjusted to a PH value within the range of 5.5 and 10.6.

(b) The iron content of these waters following initial dilution does not exceed 0.3 P.P.M. This quality in the receiving waters will probably be attained if plant effluents are limited to 17 P.P.M. of iron in terms of Fe.

(c) The odor-producing substances in the effluent are reduced to a point that following initial dilution with these waters the mixture does not have a threshold odor number in excess of four due to such added material.

(d) Unnatural color and turbidity of the wastes are reduced to a point that these waters will not be offensive in appearance or otherwise unattractive for the aforementioned uses.

(e) Oil and floating solids are reduced to a point such that they will not create fire hazards, coat hulls of water craft, injure fish or wild life or their habitat, or will adversely affect public or private recreational development or other legitimate shore line developments, or uses. Protection should be provided for these waters if plant effluents or storm water discharges from premises do not contain oils, as determined by extraction in excess of 15 P.P.M.,

or a sufficient amount to create more than a faint irridescence.

Some of the industries producing chemical wastes other than phenolic are: Oil wells and petroleum refineries, gasoline filling stations and bulk stations, styrene co-polymer, synthetic pharmaceutical, synthetic fibre, iron and steel, alkali chemical, rubber fabricating, dye manufacturing, and acid manufacturing plants.

(3) Highly Toxic Wastes:

Adequate protection should be provided for these waters if materials highly toxic to human, fish, aquatic, or wild life are eliminated.

Some of the industries producing highly toxic wastes are: metal plating and finishing plants discharging cyanides, chromium or other toxic wastes; chemical and pharmaceutical plants and coke ovens. Wastes containing toxic concentrations of free halogens and wastes containing resin and fatty acid soaps are included in this category.

(4) Deoxygenating Wastes:

Adequate protection of these waters should result if sufficient treatment is provided for the substantial removal of solids, bacteria, chemical constituents and other substances capable of reducing the dissolved oxygen content of these waters unreasonably. In addition to sewage some of the industries producing these wastes are: tanneries, glue and gelatine plants, alcohol, including breweries and distilleries, wool scouring, textile, pulp and paper, food processing plants such as meat packing and dairy plants, corn products, beet sugar, fish processing and dehydration plants.
